

CO-OPERATIVE LEARNING

What it has to offer New Zealand teachers

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Co-operative learning has an impressive research base stretching back more than a quarter of a century, although Roger and David Johnson (1998) trace the idea of students supporting each other to learn back to the Talmud and the Roman philosopher, Seneca.

This research base shows that co-operative learning helps teachers to raise the academic achievement of all students; it helps them to build positive interpersonal relationships; and it provides students with the experiences they need in order to build healthy social, psychological and cognitive development (Johnson and Johnson, 1994).

However, these results occur only under certain conditions. Many of the benefits of co-operative learning strategies are not realised because of poor or partial implementation or infrequent use. Co-operative learning cannot fulfil its promise if it is "what we do on Wednesdays" or it is rolled out on Friday afternoon to help "boost self-esteem".

Many teachers who have attempted co-operative learning are unaware of the complexities of the methodology. Simply allocating students to groups and instructing them to "work together" or "co-operate" will not bring about the academic or social outcomes that co-operative learning promises. Because traditional group work is widely implemented, particularly in primary classrooms, it is easy for teachers to assume that group work equates to co-operative learning. It does not. Working round a table on individual tasks with opportunity for discussion is not co-operative learning. Nor is having a team discussion, where some students can dominate or "hitchhike".

What is co-operative learning and how does it differ from traditional group work?

Co-operative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning. (Johnson and Johnson, 1994, p.1:3.)

The core notion in co-operative learning is that when we co-operate, we work together to accomplish shared goals; we seek to achieve outcomes that are beneficial to us and also beneficial to all members of the group.

While it helps to foster and develop interpersonal skills, co-operative learning is not a social skills programme. Rather it is an academic skills programme, a thinking skills approach that requires students to develop the necessary interpersonal and small group skills to enable them to work successfully together to achieve their goals.

The following five basic characteristics (as outlined by the Johnsons) distinguish co-operative learning from traditional group practice.

1. Positive interdependence

This is the most important element — the heart of co-operative learning. If there is no positive interdependence, there is no co-operation. The Johnsons call it the "we" rather than the "me" element. When students believe that they "sink or swim together"; when they develop an "all for one and one for all" attitude to working in their groups, then the teacher has succeeded in structuring positive interdependence. The

members of the group perceive that they cannot succeed unless everyone succeeds; that if one fails all fail. This creates a commitment to other people's success as well as to one's own.

Teachers can structure positive interdependence by:

- ensuring mutual goals (having a single product, report)
- division of labour (ensuring that everyone is required to contribute a different piece of work to the finished product)
- resource interdependence (sharing of information, materials and resource among the members of the group)
- assigning various group maintenance roles to students.

2. Individual accountability

In co-operative learning, the individual student is responsible both for his or her own learning and for contributing to the group. It is essential that teachers check the progress and understanding of individual students. This can be done by:

- using the usual individual test and assessment methods
- randomly selecting a student to report back from the group
- checking the understanding of individual students as the teacher monitors the groups
- having the students do self reports on their learning and contribution to the group.

This ensures that there is no "hitch-hiking" and that everyone does their share of the work.

One of the underlying notions of cooperative learning is that the group strengthens the individual. As Vygotsky (1978) put it, what

students can do in the group today, they can do on their own tomorrow.

3. Group reflection

Groups learn about working together by reflecting on their experiences of teamwork. Reflecting on their work is the key to continuous improvement. It involves evaluating how well they achieved their goals and how well they worked together; analysing what they did in order to identify what the factors were that helped or hindered the smooth running of the group; and setting goals that will help the group function better in the future. Evaluating, analysing and goal setting are higher order thinking skills, so that reflection encourages students to take a metacognitive and strategic approach to their work.

The task of reflection can be done in a variety of ways — in small groups or with the whole class, informally through discussion or with reflection sheets. It adds a bit of variety to use a range of methods.

4. Small group skills

A basic tenet of co-operative learning is the explicit teaching of the required skills. Nobody is born with the skills for effective group work — they have to be learned. For group work to be effective, students must be taught task skills, which include skills and strategies for learning; and interpersonal skills, which ensure the smooth functioning of the group. These are complex skills which have to be identified, taught, modelled and practised. A guiding principle in co-operative learning is to teach the skills in the context in which they will be used, so as to enable the student to practise the skills in authentic situations where they are needed and naturally reinforced. A co-operative classroom affords many opportunities for such practice.

While it does take time to teach these skills, it is invested time which will pay off in the smoother running of the classroom and more effective learning strategies for students.

5. Face to face interaction

The first aspect of face to face interaction is the notion of physical proximity. For effective communication, groups have to be “eye to eye” and “knee to knee”. When a group is working well, it shows — heads are together, bodies are leaning inwards. It is also easy to see when a group is dysfunctional. One or two students may be apart, members of the group may be looking around or engaged in individual tasks.

A second aspect involves the notion of

promoting each other's learning face to face by encouraging each other, giving feedback, explaining concepts, sharing ideas, challenging suggestions. All these help to make the group become personally committed to each other and the goals of the group. This actively involves them in the learning process. Talking helps thinking, and face to face interaction encourages talking and discussion.

These five elements form the basis of co-operative learning and are the foundation for co-operative group work. Each is important, but it is the combination of the five which makes co-operative learning such a powerful tool for thinking and learning. Together they form the acronym PIGSF (Pigs Fly):

- P** Positive interdependence
- I** Individual accountability
- G** Group reflection
- S** Small group skills
- F** Face to face interaction.

Not all co-operative learning activities will incorporate all five elements; but to establish a truly co-operative classroom, teachers must develop competence in structuring into their programme all these essential elements.

Everyone has had personal or observational experience of groups that did not work. We have all experienced the domineering person who takes over the group, the “hitchhiker” who lets you do all the work and then takes the credit, the lack of achievement of goals because of bickering and badly handled conflict and controversy in the group, and/or the exclusion of the team member who is a bit different. If we were to stop and analyse the reason for the group dysfunction, it is likely that one or more of the essential elements of co-operative learning were not present.

The significance of teachers' beliefs and values

A classroom may be co-operative (where students work to support each other in their learning); competitive (where they are pitted against each other for the “rewards” of marks, teacher attention and approval); or individualistic (where they are concerned only with reaching their own goals). It depends on how the teacher sets up the working environment. Teachers have it in their power to control the interaction patterns in a classroom. Often they can be unaware that their actions may be fostering competition. For example, they may structure a question-answer session in such a way that students vie and compete with each other for teacher attention and approval.

Values and beliefs have a great impact on what teachers do in the classroom. We are only

beginning to understand how teachers change their beliefs, and how they react to new methods, ideas and practices. While some teachers may see co-operative learning as a useful tool for teaching, it is in fact much more than that. It is philosophy in itself (Shneidewind and Sapon-Shevin, 1998).

What teachers believe about knowledge, teaching, learning and their role in the classroom will greatly affect the willingness and ease with which they adopt and integrate co-operative learning into their teaching. It is likely to appeal most strongly to teachers who believe that:

- Knowledge is dynamic and changing and constructed by students in relation to their experiences, rather than an objective body of information to be imparted to the “empty vessel” student.
- Teaching is a complex craft requiring the teacher to reflect and consult before making conscious decisions, rather than an activity that can be broken down into discrete teacher behaviours.
- The teacher is a facilitator of learning, rather than a director, controller or manager of the classroom.

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Co-operative experiences in learning situations promote greater interpersonal attraction than do competitive or individualistic ones.

Brody (1998) notes that teachers who self-select into a co-operative learning training programme usually hold a facilitator view of their role before they begin. The authors would agree with Brody. Our experience in working with hundreds of New Zealand teachers has been that those teachers who are in accord with the underlying philosophy and values of co-operative learning are the ones who most successfully implement it into their classrooms.

Co-operative learning and the demands of the curriculum framework

There is now an extensive literature of evidence emerging from around the world that co-operative learning produces superior academic results, when compared with competitive and individualistic classroom environments (see Johnson and Johnson, 1998). Even for the so-called gifted student, there is good evidence of its superiority (e.g. Coleman and Gallagher, 1995).

The New Zealand Curriculum Framework (Ministry of Education, 1993), the "foundation for learning programmes in New Zealand schools" (p.1), is comprised of a set of principles, a list of essential learning areas and a list of essential skills. It aims "to produce a learning environment which enables all our students to attain high standards and develop appropriate personal qualities" (p.1). These are exactly the areas that research shows co-operative learning to be strong in.

In terms of the essential skills in the framework, six of the eight essential skills are

likely to be taught best in a co-operative environment, including co-operation itself. Even the so-called competitive skills, more appropriately labelled self-management skills, can best be developed in a co-operative environment.

As the curriculum guidelines have emerged, all have placed some emphasis on co-operative learning, with some curriculum documents, such as health and social studies, borrowing heavily from co-operative learning methodology. Even in mathematics, traditionally taught by individualistic or competitive methods, co-operative learning methods have been shown to be usually more effective (e.g. Whicker, Bol and Nunnery, 1997).

The New Zealand Curriculum Framework makes frequent reference to issues of equity, life-long learning skills and co-operation, and emphasises that the curriculum must be accessible to all students. New Zealand research confirms that we can rely on co-operative learning to meet these demands (Jaques, Wilton and Townsend, 1998; Townsend and Hicks, 1997).

The New Zealand Curriculum Framework also recognises the unique position of Maori in New Zealand, and the significance of the multicultural nature of New Zealand society. There is a recognition that our society is changing and becoming much more diverse, with an increasing range of immigrant populations, a wider range of socio-economic groups, changing and more liberal attitudes towards and acceptance of a wider variety of family structures and lifestyles.

Roger and David Johnson (1989), in a review of 180 studies, found that co-operative experiences in learning situations promote greater interpersonal attraction than do competitive or individualistic ones. The positive relationships were found to have continued into voluntary choice settings, even when individuals initially disliked and distrusted each other. "Diversity can fulfil its promise rather than be a problem when learning situations and schools are structured co-operatively" (Johnson and Johnson, 1998, p.85).

In short, if we are serious about delivering the content of the curriculum in a way that ensures the recognition of the underlying principles, and the development of the essential skills, then co-operative learning clearly has much to offer. Traditional methods are no longer sufficient to meet the challenge the framework brings us. Teacher centred classrooms will not produce the so-called "knowledge economy", nor are they appropriate to what most educators would probably prefer to call the "thinking society".

A great many teachers run innovative and stimulating classrooms. Their teaching approaches can easily be seen to be in harmony with the demands for higher order thinking and deep learning, which most of us now believe are the important ingredients of effective teaching and learning. For these teachers, co-operative learning is like changing up a gear. It enables them to capitalize on their already considerable skills.

For those who are still emerging from a more traditional teacher centred approach, co-operative learning is an eminently sensible and appropriate methodology to help them move to a learning centred classroom. New Zealand teachers can embrace co-operative learning with confidence, secure in the knowledge that they are employing one of the most extensively researched teaching methodologies available to them.

How to get started

As outlined above, co-operative learning is more than just a useful tool. It is a philosophy. Teachers wishing to develop skills in co-operative learning or establish a co-operative classroom must first understand what co-operation is and how it works.

The assumption is that the most effective way to train is to instruct teachers in pre-packaged strategies, activities and lessons that are simple to use and may be mastered quickly. Teachers are viewed as technicians who add new cooperative learning techniques to their bag of tricks. This assumption tends to trivialise cooperative learning. At the other end of the continuum is the view that teachers are engineers who construct cooperative lessons tailored to their specific circumstances from a thorough knowledge of the five basic elements that make cooperation work (Johnson and Johnson, 1998, p.225).

New Zealand teachers tend, on the whole, not to embrace a technicist model. They prefer to examine and reflect on new methodologies, adapt them and absorb them into their specific circumstances.

While adopting some of the co-operative structures and techniques will greatly enhance active learning, this is a far cry from embracing co-operation as a value, or establishing a classroom where co-operation is an outcome as well as a teaching approach to delivering the curriculum.

Developing the skills of co-operative methodologies therefore starts with commitment to the underlying values of co-

operative learning and to the time and effort it will take to acquire the skills. While it can take some time to develop these skills to a high level, you can begin tomorrow to make your classroom a more co-operative place. Some suggestions:

- Contact your RTLB (Resource Teacher Learning and Behaviour). RTLB are trained in co-operative learning methods and will

be able to help you get started by supporting you and providing you with appropriate resource material.

- Create a collegial support team. Gather together like-minded colleagues and create a co-operative culture in your school. These teams are co-operative groups that can provide collegial support and fun while helping each

member develop skills. The RTLB can be invited to participate in these teams.

- Read some of the ample resource literature available, and put it into practice. Try something out. Reflect on what you have done and move forward. The list below is only a very small sample of what is available.

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Useful resources

Brown, D. and Thomson, C. (2000). *Cooperative learning in New Zealand schools*. Palmerston North: Dunmore Press. This is specially written for New Zealand teachers. As the book was being written, feedback was sought from a group of teachers who were implementing co-operative learning in their classrooms and adjustments were made to the material in light of this feedback. The book contains a section on the background to co-operative learning and the research base; a section which outlines how to get started in some detail; and a final section which outlines a range of co-operative activities and ideas.

Johnson, D. W., Johnson, R. T. and Holubec, E. J. (1994). *The nuts and bolts of cooperative learning*. Edina, MA: Interaction Book Co. This is an excellent book for the beginner. It covers the basics, even down to details of how to arrange the room. It contains many ideas for group activities.

Graves, N. and Graves, T. (1990). *A part to play*. Victoria, Australia: Latitude Publications. This is another excellent resource for helping a teacher to get started. It is clearly set out and teacher friendly.

Hill, S. and Hill, T. (1990). *The collaborative classroom*. South Yarra, Australia: Eleanor Curtin Publishing. This text is particularly helpful with ideas on teaching co-operative skills. It also has a section of activities and teaching ideas.

Kagan, S. (1994). *Cooperative learning*. San Juan, Capistrano, CA: Kagan Cooperative Learning. Kagan is the originator of the structural approach to co-operative learning, which is different from but totally compatible with the

generic approach of the Johnsons. The book has a somewhat cluttered presentation but is a treasure-trove of co-operative activities and structures.

Video. *Cooperative learning in the classroom*. This video shows four New Zealand teachers putting co-operative learning into practice in a range of classrooms, from Year 3 to Year 9. It demonstrates how the basic principles can be applied across a variety of settings and age groups. The teachers discuss the ways in which co-operative learning has influenced how they teach. Available from Victoria University of Wellington, School of Education — RTLB Programme, P.O. Box 600, Wellington (Attention — Sherilyn Houston).

References

- Brody, C. (1998). The significance of teacher beliefs for professional development and cooperative learning. In C. M. Brody and N. Davidson (eds), *Professional development and cooperative learning: Issues and approaches*. Albany: State University of New York Press.
- Coleman, M. R. and Gallagher, J. J. (1995). The successful blending of gifted education with middle schools and cooperative learning — Two studies. *Journal for the Education of the Gifted*, 18 (4), pp.362-384.
- Jacques, N., Wilton, K. and Townsend, M. (1998). Cooperative learning and social acceptance of children with mild intellectual disability. *Journal of Intellectual Disability Research*, 42 (1), pp.29-36.
- Johnson, D.W. and Johnson, R.T. (1998). Effective staff development in cooperative learning:

Training, transfer, and long term use. In C. M. Brody and N. Davidson (eds), *Professional development and cooperative learning: Issues and approaches*. Albany: State University of New York Press, pp.223-42.

Johnson, D. W., and Johnson, R. T. (1998). Cultural diversity and cooperative learning. In J.W. Putnam (ed.), *Cooperative learning and strategies for inclusion* (2nd edn). Baltimore: Paul Brookes Publishing Co. Ltd.

Johnson, D. W., Johnson, R. T., and Holubec, E. J. (1994). *The nuts and bolts of cooperative learning*. Edina, MN: Interaction Book Company.

Johnson, D. W., Johnson, R. T. and Holubec, E. J. (1993). *Circles of learning* (rev.edn). Edina, MN: Interaction Book Company.

Ministry of Education. (1993). *The New Zealand Curriculum Framework*. Wellington: Learning Media.

Schneiderwind, N. and Sapon-Shevin, M. (1998). Professional development for socially-conscious cooperative learning. In C. M. Brody and N. Davidson (eds), *Professional development and cooperative learning: Issues and approaches*. Albany: State University of New York Press, pp.203-19.

Townsend, M. A. R. and Hicks, L. (1997). Classroom goal structures, social satisfaction and the perceived value of academic tasks. *British Journal of Educational Psychology*, 67 (1), pp.1-12.

Vygotsky, L. *Mind in society: The development of higher psychological process*. Cambridge, MA: Harvard University Press.

Whicker, K. M., Bol, L., and Nunnery, J. A. (1997). Cooperative learning in the secondary mathematics classroom. *Journal of Educational Research*, 91 (1), pp.42-48.